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EXAMINER

TESFAMARIAM, MUSSIE

ART UNIT	PAPER NUMBER
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2162

DATE MAILED: 03/14/2002

8

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
09/303,424

Applicant(s)  
JUSSI LEMILAINEN et al

Examiner  
Mussie Tesfamariam

Art Unit  
2162



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on Feb 11, 2002
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

- 15) ☒ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
- 18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

1. Applicant's arguments with respect to claims 1-22 have been considered but are moot in view of the new ground(s) of rejection. Gifford, 5724424.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

*(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.*

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103© and potential 35 U.S.C. 102(f) or (g) prior art under 35 U.S.C. 103(a).

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3. Claim 1, 13, 21, 22-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al, 6167513 in view of Yoon et al, 6173407 and Gifford, 5724424.

As per claim 1, Inoue et al disclose in a method of obtaining connection to a packet data network comprising:

inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

Inoue et al also discloses in transmitting from the second network to the first network authentication information granting the user authentication to obtain connection through the second network to the packet data network; See fig 1, fig 30, fig 42, fig 45.

He also discloses in transmitting the authentication information from the first network to the user which informs the user that authentication to obtain connection to the packet data network has been obtained. See fig 1, fig 30, fig 42, fig 45.

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Gifford also discloses in an authorization of payment. See the abstract, fig 6, items 26-29, fig 16. He also discloses in the transmitting from the first network to the second network the user request and an authorization of payment to second network by the first network for the use by the user of the packet data network. See col 12, lines 23-50, col 13, lines 46-67.

As per claim 13, Inoue et al disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system. Gifford also discloses in an authorization of payment. See the abstract, fig 6, items 26-29, fig 16. He also discloses in the transmitting from the first network to the second network the user request and an authorization of payment to second network by the first network for the use by the user of the packet data network. See col 12, lines 23-50, col 13, lines 46-67.

As per claim 21, Inoue et al disclose in a system comprising:

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a user; a first network which is connectable to the user; a second network which is connectable to the first network and to the user; and a packet data network which is connectable to the second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43.

He also discloses in and wherein the first network, in response to a user request to the first network that the user be authorized for connection to the packet data network through the second network, transmits to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment.

Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

He also discloses in transmitting from the second network to the first network authentication information granting the user authentication to obtain connection through the second network to the packet data network; See fig 1, fig 30, fig 42, fig 45.

He also discloses in transmitting the authentication information from the first network to the user which informs the user that authentication to obtain connection to the packet data network has been obtained. See fig 1, fig 30, fig 42, fig 45.

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Gifford also discloses in an authorization of payment. See the abstract, fig 6, items 26-29, fig 16.

He also discloses in the transmitting from the first network to the second network the user request and an authorization of payment to second network by the first network for the use by the user of the packet data network. See col 12, lines 23-50, col 13, lines 46-67.

As per claim 22, Inoue et al disclose in a method of obtaining connection to a packet data network comprising:

inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

Inoue et al also discloses in transmitting from the second network to the first network authentication information granting the user authentication to obtain connection through the second network to the packet data network; See fig 1, fig 30, fig 42, fig 45.

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He also discloses in transmitting the authentication information from the first network to the user which informs the user that authentication to obtain connection to the packet data network has been obtained. See fig 1, fig 30, fig 42, fig 45.

Gifford also discloses in an authorization of payment. See the abstract, fig 6, items 26-29, fig 16.

He also discloses in the transmitting from the first network to the second network the user request and an authorization of payment to second network by the first network for the use by the user of the packet data network. See col 12, lines 23-50, col 13, lines 46-67. He discloses in after the user is informed that authentication to obtain connection to the packet data network has been obtained, see the abstract, fig 1, fig 30, the user transmits to the second network at least one request for consumption of at least one service unit and the second network debits from a stored value of service units which are granted to the user a consumed number of service units. See the abstract, fig 1, fig 30, col 35, lines 20-27, 39-43.

As per claim 23, Inoue et al, disclose in the number of consumed service units are identified in each request for consumption of at least one service unit until the number of consumed service units equals a number of granted units. See the abstract.

As per claim 24, As per claim 21, Inoue et al disclose in a system comprising:

a user; a first network which is connectable to the user; a second network which is connectable to the first network and to the user; and a packet data network which is connectable to the second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43.



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He also discloses in and wherein the first network, in response to a user request to the first network that the user be authorized for connection to the packet data network through the second network, transmits to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment.

Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

He also discloses in transmitting from the second network to the first network authentication information granting the user authentication to obtain connection through the second network to the packet data network; See fig 1, fig 30, fig 42, fig 45.

He also discloses in transmitting the authentication information from the first network to the user which informs the user that authentication to obtain connection to the packet data network has been obtained. See fig 1, fig 30, fig 42, fig 45.

Gifford also discloses in an authorization of payment. See the abstract, fig 6, items 26-29, fig 16.

He also discloses in the transmitting from the first network to the second network the user request and an authorization of payment to second network by the first network for the use by the user of the packet data network. See col 12, lines 23-50, col 13, lines 46-67. He discloses in after the user

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is informed that authentication to obtain connection to the packet data network has been obtained, see the abstract, fig 1, fig 30, the user transmits to the second network at least one request for consumption of at least one service unit and the second network debits from a stored value of service units which are granted to the user a consumed number of service units. See the abstract, fig 1, fig 30, col 35, lines 20-27, 39-43. He discloses in after the user is informed that authentication to obtain connection to the packet data network has been obtained, see the abstract, fig 1, fig 30, the user transmits to the second network at least one request for consumption of at least one service unit and the second network debits from a stored value of service units which are granted to the user a consumed number of service units. See the abstract, fig 1, fig 30, col 35, lines 20-27, 39-43.

AS per claim 25, Inoue et al, disclose in the number of consumed service units are identified in each request for consumption of at least one service unit until the number of consumed service units equals a number of granted units. See the abstract.

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4. Claim 2-3, 7-8, 14, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al, 6167513 in view of Yoon et al, 6173407 and Gifford, 5724424. as applied to claim 1 above, and further in view of Chan 5659541.

As per claim 2, Inoue et al, disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43.

However, he fails specifically to disclose in a quantification of connectivity which the user requests to the packet data network. Chan discloses in quantification of connectivity which the user requests to the packet data network. See col 1, lines 17-24. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use quantification process. This is because it would improve Inoue's system to have high intensity level of connectivity.

As per claim 3, Inoue et al, disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43.

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However, he fails specifically to disclose in the quantification comprises at least one service with each service unit being encoded with a random number. Chan discloses in the quantification comprises at least one service with each service unit being encoded with a random number. See col 1, lines 17-30. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use quantification in a random number. This is because it would improve Inoue's system to have high random level of connectivity.

As per claim 7, Inoue et al disclose in a user; a first network which is connectable to the user; a second network which is connectable to the first network and to the user; and a packet data network which is connectable to the second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. However, he fails specifically to disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. Michel Mouly et al disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. See Page 477-479, 483. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

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As per claim 8, Inoue et al disclose in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he fails specifically to disclose in a subscriber identification module SIM comprising a number n of service 4 units with each service unit comprising a different random access number uniquely identifying each service unit, a signed response SRES and the shared key Kc. Michel Mouly et al disclose in authentication information is a subscriber identification module SIM comprising a number n of service 4 units with each service unit comprising a different random 5 access number uniquely identifying each service unit, 6 a signed response SRES and the shared key Kc. See Page 464-465, 482, 485-486, 488. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 14, Inoue et al disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one

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of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

As per claim 15, Inoue et al disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

5. Claims 4, 9, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al, 6167513 in view of Yoon et al, 6173407, Gifford, 5724424 and Chan, 5659541 as applied to claim 3 above, and further in view of Mouly.

As per claim 4, Inoue et al disclose in a user; a first network which is connectable to the user; a second network which is connectable to the first network and to the user; and a packet data

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network which is connectable to the second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. However, he fails specifically to disclose in each service unit is encoded with a different random number. Michel Mouly et al disclose in each service unit is encoded with a different random number. See section 7.2.2.1. on page 478, fig 7.7 on page 479, Page 483, fig 7.9.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use random number. This is because it would improve Inoue's system to use encoding process with different random number to protect an intruder from invading the network system.

As per claim 9, Inoue et al, disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43.

However, he fails specifically to disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. Michel Mouly et al disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. See Page 477-479, 483. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a

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shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 16, Inoue et al disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment. See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

6. Claims 5-6, 10, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al, 6167513 in view of Yoon et al, 6173407 and Gifford, 5724424 as applied to claim 1 above, and further in view of Mouly.

As per claim 5, Inoue et al, disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first



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network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43.

However, he fails specifically to disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. Michel Mouly et al disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. See Page 477-479, 483. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 6, Inoue et al disclose in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he fails specifically to disclose in a subscriber identification module SIM comprising a number n of service 4 units with each service unit comprising a different random access number uniquely identifying each service unit, a signed response SRES and the shared key Kc. Michel Mouly et al disclose in authentication information is a subscriber identification module SIM comprising a number n of service 4 units with each service unit comprising a different random access number uniquely identifying each service unit, 6 a signed response SRES and the shared key Kc. See Page 464-465, 482, 485-486, 488.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention

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was made to modify Inoue's system such that it will use a shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 10, Inoue et al disclose in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he fails specifically to disclose in a subscriber identification module SIM comprising the number of service 4 units with each service unit comprising a different random access number uniquely identifying each service unit, a signed response and the shared key Kc. Michel Mouly et al disclose in the second network computes a subscriber identification module SIM comprising the number of service 4 units with each service unit comprising a different random 5 access number uniquely identifying each service unit, a signed response and the shared key Kc. See Page 464-465, 480, 485-486, 488. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 17, Inoue et al disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authorization of payment. Yoon et al discloses in an authorization of payment.

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See the abstract, figure 1, figure 2, figure 3, fig 6, fig 7a-7b, fig 8, col 1, lines 6-11, col 3, lines 37-42, 64-67, col 6, lines 54-60, col 9, lines 26-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's such that it will use authorization of payment. This is because it would improve Inoue's system to have secured payment system.

7. Claims 11-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al, 6167513 in view of Yoon et al, 6173407, Gifford, 5724424 and Chan, 5659541 as applied to claim 4 above, and further in view of Mouly.

As per claim 11, Inoue et al, disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43.

However, he fails specifically to disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. Michel Mouly et al disclose in the authentication information comprises a shared key which may be used to create secure communications between the user and the packet data network. See Page 477-479, 481, 483. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a

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shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 12, Inoue et al disclose in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he fails specifically to disclose in a subscriber identification module SIM comprising the number of service 4 units with each service unit comprising a different random 5 access number uniquely identifying each service unit, a signed response and the shared key Kc. Michel Mouly et al disclose in the second network computes a subscriber identification module SIM comprising the number of service 4 units with each service unit comprising a different random access number uniquely identifying each service unit, a signed response and the shared key Kc. See Page 464-465, 480, 485-486, 488. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use a shared key. This is because it would improve Inoue's system to have secured atmosphere between the user and the network.

As per claim 13, Michel Mouly et al disclose in the inputting of the user request to the first network, the transmitting of the user request see section 1.3.1 on Page 47, Page 48, Page 51, lines 1-7, fig 1.5 on Page 54, last paragraph on Page 55 and an authorization of payment to the second network and the transmitting of the authentication information from the second network

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to the first network and to the user are by secure communications. see section 1.3.1 on Page 47, fig 1.5 on Page 54, Page 55, lines 1-6, fig 9.3 on Page 575

8. Claims 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Inoue et al, 6167513 in view of Yoon et al, 6173407, Gifford, 5724424 and Chan 5659541 as applied to claim 3 above, and further in view of Tsubakiyama et al, 5345506.

As per claim 18, Inoue et al disclose in inputting a user request to a first network which requests that the user be authorized for connection to the packet data network through a second network; See fig 1, fig 30, fig 42, col 35, lines, 20-27, 39-43. He also discloses in transmitting from the first network to the second network the user request and an authorization. See fig 1, fig 30, fig 42, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43. However, he specifically fails to disclose in an authentication to obtain connection to the packet data network has been obtained, the user transmits to the second network at least one request for consumption of at least one service unit comprising a random number RAND and a signed response SRES. Michel Mouly et al disclose in after the user is informed that authentication to obtain connection to the packet data network has been obtained, the user transmits to the second network at least one request for consumption of at least one service unit comprising a random number RAND and a signed response SRES; see Pages 464-465, 478-479, fig 7.7, 485-486, 488. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify

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Inoue's system to have a random number RAND and a signed response SRES. This is because it would improve Inoue's system to validate network pass securely.

He also fails to disclose to determine if a match exists; and if a match exists, the second network permits data packets to pass through the second network between the user and the packet network. Tsubakiyama et al, 5345506 disclose to determine if a match exists; and if a match exists, the second network permits data packets to pass through the second network between the user and the packet network. See the abstract, col 1, lines 36-45, col 4, lines 1-22, col 5, lines 1-2, 23-33. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Inoue's system such that it will use SRES to determine if a match exists. This is because it would improve Inoue's system to validate network pass securely.

As per claim 19, Inoue et al discloses in the second network debits from a stored value of service units which have been granted to the user a number of consumed service units which are identified in each request for consumption of at least one service until the number of consumed service units equals the number of granted service units. See fig 1, fig 30, fig 42, fig 45, col 5, lines 7-10, 44-47, col 6, lines 34-40, col 35, lines, 20-27, 39-43.

As per claim 20, Inoue et al discloses in each unused service unit is stored in the second network in a hash table and each used service unit is stored in the second network in a hash table. See col 48, lines 43-47

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***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

A. Fontenot US patent 4,616,359 Oct 7, 1986. Adaptive Preferential Flow Control for Packet Switching system.

B. Murto US patent 5991407 Oct 17, 1995. Subscriber Authentication in a Mobile communications System.

C. Chau et al, US patent 6278705 April 8, 1997. Integrated Architecture to support a Singe system Image Across Multiple Network Access Servers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Mussie Tesfamariam** whose telephone number is **(703)305-1393**. The examiner can normally be reached on Monday - Friday from 8:00 a.m. to 5:00 p.m. If attempts to reach the examiner by telephone are unsuccessful, the **examiner's supervisor, Eric Stamber** can be reached at **(703) 305-8469**.

Any response to this office action should be mailed to:

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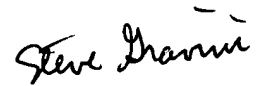
(703)746-7238, (for after-final)

**Hand-delivered** responses should be brought to **Crystal park II, 2121 Crystal Drive**

**Arlington, Virginia, (Receptionist).**

**Mussie Tesfamariam**

March 8, 2002



**STEPHEN GRAVINI  
PRIMARY EXAMINER**